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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,224	01/28/2004	C. Brent Dane	MICI 1004-2	2906
22470	7590	12/27/2005	EXAMINER	
HAYNES BEFFEL & WOLFELD LLP			DIACOU, ARI M	
P O BOX 366			ART UNIT	
HALF MOON BAY, CA 94019			PAPER NUMBER	

3663

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/766,224		DANE ET AL.	
	Examiner		Art Unit	
	Ari M. Diacou		3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7-8-2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Examiner acknowledges the election of group II, drawn to claims 9-28. As well as the cancellation of claims 1-8 and 29-36, in the response to restriction requirement filed by the applicant on 11-4-2005.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 9 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 5239408 (heretofore referred to as the '408 patent) in view of Farmer (USP No. 3724930). Although the conflicting claims are not identical, they are not patentably distinct from each other because the applicant is merely adding limitations directed to a variant that would have been obvious to one of ordinary skill in the art at the time the invention was made.

Claim 1 of the '408 patent and claim 9 of the instant application recite verbatim the limitations directed towards the gain medium, polarization rotator, polarizer, reflectors and phase conjugator.

Claim 1 of the '408 patent recites limitations to the placement of the commonly recited apparatus, in the form of optical path limitations, these limitations are not recited in claim 1 of the instant application, nor claimed equivalently. Claim 9 of the instant application recites limitations directed towards a relay telescope that are not recited in

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claim 1 of the '408 patent. Claim 13 however, claims the subject matter of a relay telescope. Claim 14 of the '408 patent further elaborates the relay telescope, but is (probably unintentionally) improperly dependent on claim 11, instead of claim 13. The '408 patent makes no mention of the baffle structure (which is effectively a spatial filter) claimed in the instant application. Therefore, the claims of the '408 patent imply claim 9 of the instant application, with the exception of limitations to the baffle structure.

Farmer teaches the use of a baffle structure in a relay telescope. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to include a baffle for the advantage of eliminating the degrading effects of dust and scratches on the optical elements in the laser system and lenses [See Col 1, lines 10-13].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the '408 patent in view of Farmer. '408 discloses a laser amplifier, comprising:

- a gain medium; [Fig. 2, #250] [Col. 4, line 46 - Col. 5, line 67]
- a polarization rotator; [Fig. 2, #240] [Col. 4, line 46 - Col. 5, line 67]
- a passive polarizer; [Fig. 2, #202] [Col. 4, line 46 - Col. 5, line 67]
- a plurality of reflectors configured to define an optical path through the gain medium, the passive polarizer, and the polarization rotator; and [Fig. 2, #211, #212, #213, #214, #215, #216, #217] [Col. 4, line 46 - Col. 5, line 67]
- a phase conjugator configured to receive a beam from the optical path after the pulse has proceeded one or more transits through the optical path, the phase conjugator further configured to return the beam with reversed phase to the optical path to proceed an equal number of transits of the optical path in an

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opposite direction before exiting the optical path; and [Fig. 2, #260] [Col. 4, line 46 - Col. 5, line 67]

- a relay telescope having a telescope focal point, between the gain medium and the passive polarizer, which is used for relaying images between the gain medium and a location in the optical path near the passive polarizer, [Fig. 2, #220] [Col. 4, line 46 - Col. 5, line 67]

but fails to disclose a tapered baffle in the relay telescope. Farmer teaches the use of a baffle structure in a relay telescope [Fig. 1, #7] [Col. 2, lines 4-18]. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to place a baffle in a relay telescope, for the advantage of eliminating the degrading effects of dust and scratches on the optical elements in the laser system and lenses [See Col 1, lines 10-13].

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the '408 patent in view of Gohil. '408 discloses a laser amplifier, comprising:

- a gain medium; [Fig. 2, #250] [Col. 4, line 46 - Col. 5, line 67]
- a polarization rotator; [Fig. 2, #240] [Col. 4, line 46 - Col. 5, line 67]
- a passive polarizer; [Fig. 2, #202] [Col. 4, line 46 - Col. 5, line 67]
- a plurality of reflectors configured to define an optical path through the gain medium, the passive polarizer, and the polarization rotator; and [Fig. 2, #211, #212, #213, #214, #215, #216, #217] [Col. 4, line 46 - Col. 5, line 67]

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- a phase conjugator configured to receive a beam from the optical path after the pulse has proceeded one or more transits through the optical path, the phase conjugator further configured to return the beam with reversed phase to the optical path to proceed an equal number of transits of the optical path in an opposite direction before exiting the optical path; and [Fig. 2, #260] [Col. 4, line 46 - Col. 5, line 67]
- a relay telescope having a telescope focal point, between the gain medium and the passive polarizer, which is used for relaying images between the gain medium and a location in the optical path near the passive polarizer, [Fig. 2, #220] [Col. 4, line 46 - Col. 5, line 67] the relay telescope comprising:
 - a first relay lens; [Fig. 2, #224] [Col. 5, lines 1-7]
 - a second relay lens; [Fig. 2, #228] [Col. 5, lines 1-7]
 - a vacuum chamber between the first and second relay lenses, the first and second relay lenses focusing beams at a common focal point within the vacuum chamber; [Fig. 2, #222] [Col. 5, lines 1-7]

but fails to disclose a kinematic mount in the vacuum chamber and an access port for accessing said mount. Gohil teaches the use of an experimental vacuum chamber with an access port [Fig. 1, #5] and an alignment mount [Fig. 1, #10] for holding a baffle [Fig. 1, #8]. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to provide a kinematic mount for the purpose of holding a baffle, and an access port in a vacuum system for accessing said

baffle for the cost advantage of being able to change baffles and use the same vacuum system.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over '408 in view of Farmer as applied to claim 9 above, and further in view of Reinhard. The '408 patent and Farmer disclose the invention with all the limitations of claim 9, but fails to disclose the grazing angle of the baffle. Reinhard teaches that the grazing angle is merely a measure of what frequencies one would want to allow through the waveguide/member [Pages 3-8]. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set the angle of the baffle to eliminate unwanted modes as suggested by Reinhard to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

10. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over '408 and Farmer as applied to claim 9 above, and further in view of Marshall. The '408 patent and Farmer disclose the invention with all the limitations of claim 9, but fails to disclose walk-off optimization. Marshall teaches walk-off optimization [Fig. 1]. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to align the optical cavity with walk-off, for the advantage of improving output beam characteristics.

11. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over '408 and Farmer as applied to claim 9 above, with the additional limitations of claims 14-16 being found in the '408 reference.

- Regarding claim 14, the location in question is adjacent to rotator 240.
- Regarding claim 15, the object in the optical path between 206 and 260 is a lens. The examiner could find no definition of telescope that requires two lenses, and is considering said object to be a telescope located between the location and phase conjugator.
- Regarding claim 16, the object the examiner is considering a telescope must have a mechanical securing means, to keep it aligned, the examiner is considering this to be a baffle which would necessarily block off angle beams.

12. Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '408 patent in view of Gohil as applied to claim 17 above, and further in view of Farmer. The '408 patent and Gohil discloses the invention with all the limitations of claim 17, but fails to disclose the particulars of the baffle means. Farmer teaches the baffle with all the particulars of claim 18 and 20 [Fig. 1] [See reasoning in paragraph 7 of this office action]. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to replace the baffle of Gohil, with the baffle of Farmer, for the advantage of eliminating the degrading effects of dust and

scratches on the optical elements in the laser system and lenses [See Col 1, lines 10-13].

13. Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '408 patent in view of Gohil and Farmer as applied to claims 18 and 20 above, and further in view of Reinhard. The '408 patent with Farmer and Gohil discloses the invention with all the limitations of claim 17, 18 and 20, but fails to disclose a tapering angle of 1-10 degrees. Reinhard teaches that the grazing angle is merely a measure of what frequencies one would want to allow through the waveguide/member [Pages 3-8]. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set the angle of the baffle to eliminate unwanted modes as suggested by Reinhard to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

14. Claims 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over '408 and Gohil as applied to claim 17 above, and further in view of Marshall. The '408 patent and Gohil disclose the invention with all the limitations of claim 17, but fails to disclose walk-off optimization. Marshall teaches walk-off optimization [Fig. 1]. Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the

invention was made, to align the optical cavity with walk-off, for the advantage of improving output beam characteristics.

15. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over '408 in view of Gohil and Farmer as applied to claim 18 and 20 above, with the additional limitations of claims 14-16 being found in the Farmer reference.

- Regarding claim 26, the location in question is adjacent to rotator 240.
- Regarding claim 27, the object in the optical path between 206 and 260 is a lens. The examiner could find no definition of telescope that requires two lenses, and is considering said object to be a telescope located between the location and phase conjugator.
- Regarding claim 28, the object the examiner is considering a telescope must have a mechanical securing means, to keep it aligned, the examiner is considering this to be a baffle, which would necessarily block off angle beams.

16. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over '408 and Gohil as applied to claim 17 above, with the additional limitations of claims 14-16 being found in the Farmer reference.

- Regarding claim 22, the pinhole aperture is #7, while the far field alignment baffle is #70.
- Regarding claim 23, the near field alignment baffle is #3.

- Regarding claim 24, the near field alignment baffle is #3, and the second near field baffle is #10.

Conclusion

17. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

18. The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.

19. The prior art which is cited but not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ari M. Diacou whose telephone number is (571) 272-5591. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMD 12/21/2005


JACK KEITH
SUPERVISORY PATENT EXAMINER